DOCUMENT RESUME

ED 265 630 EA 018 114

AUTHOR Carnine, Linda
TITLE Teaching Basic Reading Skills in Secondary Schools.
INSTITUTION Oregon School Study Council, Eugene.
PUB DATE May 80
NOTE 44p.
PUB TYPE Guides - Classroom Use - Guides (For Teachers) (052) -- Collected Works - Serials (022)
JOURNAL CIT OSSC Bulletin; v23 n9 May 1980

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Basic Skills; Cloze Procedure; Content Area Reading; Informal Reading Inventories; Reading Comprehension; Reading Diagnosis; *Reading Instruction; *Reading Skills; Reading Strategies; Secondary Education; Study Skills; *Teaching Methods; Vocabulary Development

ABSTRACT

This document presents diagnostic and prescriptive techniques that will enable teachers to enhance secondary school students' learning through reading in content areas. Three terms used in the document are defined in Section I: "vocabulary skills" include word attack skills, sight word skills, and word meanings; "comprehension skills" are literal, inferential, and critical in nature; and "study skills" focus on using appropriate study strategies, reading speeds, and information location and selection skills. Section II reviews diagnostic procedures that allow teachers to match appropriate materials with students' entry vocabulary and comprehension. The Cloze procedure and the use of informal reading inventories are covered. Section III presents material on vocabulary instruction, discussing guided reading strategy, vocabulary building methods, dictionary use, contextual analysis, word attack strategies, diagnosis, instructional design, and presentation. Section IV covers aspects of comprehension instruction: matching students and materials, establishing purposes, reviewing and synthesizing, and utilizing questioning methods. Study skills instruction is the topic of the fifth and final section. Subtopics presented are: utilizing organizational features, surveying the selection, using graphic aids, asking questions, adjusting reading rates, reading and reviewing the materials, using study guides and time saving techniques, and employing peer tutoring. (PGD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☒ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
P. Piele

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

ED265630

EA 018 114

Vol. 23, No. 9
May 1980

OSSC BULLETIN

TEACHING BASIC READING SKILLS

IN SECONDARY SCHOOLS

by

Linda Carnine

© 1980

Individual copy--$2.00 ($1.50 if prepaid)
Discount of 10% for 10 or more copies

TABLE OF CONTENTS

Section I. Programmatic Definitions of Vocabulary, Comprehension, and Study Skills....1

Section II. Uncomplicated Assessment Techniques....2
- Cloze Procedure....2
- Informal Reading Inventories....4
  - Oral Reading Rate and Accuracy....5
  - Comprehension....6
  - Study Skills....7

Section III. Vocabulary Instruction....9
- Guided Reading Strategy....9
- Vocabulary Building Strategies....9
- Dictionary Use....11
- Contextual Analysis....11
- Word Attack Strategies....13
  - Similar Lists....14
  - Random Lists....14
  - Build-ups....15
  - Phonetic Spellings....15
- Diagnosis....16
- Instructional Design....16
- Presentation....17

Section IV. Comprehension....18
- Match/Students and Materials....19
- Establish a Purpose....20
- Review and Synthesis Lessons....20
- Questions....21
  - Structured....22
  - Free Retell....22
  - Diagnose Written Work....23

Section V. Study Skills....25
- Utilize Organizational Features....25
- Survey the Selection....26
- Use Graphic Aids....26
- Comprehension Questions....27
- Adjust Rate to Reading Purpose....28
- Read, Recite, Review....28
- Study Guides....29
- Time Savers....30
- Peer Tutoring....30

Conclusion....31

Footnotes....32

References....36

Preface

Declining college entrance exam scores have helped to focus attention on the teaching of basic skills in secondary schools. Of immediate concern is reading instruction.

In this *Bulletin* Linda Carnine presents useful strategies for tackling reading problems at the secondary level. Included are techniques for assessment, vocabulary and comprehension instruction and study skills.

Dr. Carnine received her Ph.D. in Curriculum and Supervision from the University of Oregon, her masters degree from the University of Illinois, and completed her undergraduate work at Lewis & Clark College. For the past ten years she has worked with moderately handicapped children, and is currently a Research Associate in the Department of Special Education at the University of Oregon.

Dr. Carnine has co-authored Corrective Reading, a remedial reading program, for Science Research Associates to be used in 4th through 12th grades. Her interest is in involving parents in reading activities with their children at home, thus helping them become a more active part of the total school experience.

This *Bulletin* will interest not only secondary teachers and administrators but all members of the educational community concerned about quality reading instruction.

Kenneth A. Erickson
Executive Secretary
Oregon School Study Council

INTRODUCTION

It's no secret that junior high and high school teachers are faced with growing numbers of students who have difficulty reading and comprehending content area textbooks. According to a 1975 federal report, one million U.S. children aged 12 to 17 cannot read even at the fourth-grade level. Recent National Assessment of Educational Progress data indicates that one out of every eight 17-year-olds is functionally illiterate. Numerous students are graduating from our schools without the basic skills and information required for survival and success in today's society. Other indications that the quality of education is declining are the lower verbal reasoning (or comprehension) scores on college entrance exams. Only 70% as many students were scoring at the highest level on college entrance exams in 1972 as in 1960, indicating that comprehension is also deteriorating for "higher ability" students. (ETS, 1977)[1]

The impact of this basic-skills teaching problem is being felt by secondary teachers across the country, not only in big cities, and lower socio-economic neighborhoods. This leads us to ask, "What can the content-area teacher do about this? When is the problem too great for content-area teachers to handle? When must help from reading specialists be sought and unified faculty decisions made to provide additional basic-skill courses?" Answers are complex and somtimes nonexistent. The strategies presented in this *Bulletin* will hopefully provide teachers with some suggestions for tackling reading problems at the secondary level.

In the past the main content area teaching goal has been to impart knowledge in a specific area such as social studies, mathematics, science, health, English or history. Now secondary teachers are aware that instructional goals must extend beyond mastery of the content to the development of general reading skills and strategies. Why? Many students are preempted from obtaining knowledge from content area textbooks because they do not possess even the most basic vocabulary, comprehension and study skills.

This *Bulletin* will discuss a number of diagnostic and prescriptive techniques that will enable teachers to enhance students' learning in the content areas. Section I defines what is meant by vocabulary, comprehension and study skill teaching. Section II deals with assessment procedures that allow teachers to better match appropriate materials with student's entry vocabulary and comprehension. Sections III, IV and V cover various techniques and preparatory activities for teaching vocabulary, comprehension and study strategies to those students likely to encounter reading difficulties.

SECTION 1

PROGRAMMATIC DEFINITIONS OF VOCABULARY, COMPREHENSION AND STUDY SKILLS

What is meant by vocabulary, comprehension, and study skills is often difficult to clarify because the concepts are so interrelated. For the purposes of this *Bulletin*, vocabulary designates those skills having to do with pronouncing and giving meaning to the words in content area textbooks. More specifically these include 1) *word attack skills*, i.e., using context clues, phonic, syllabic and morphemic analysis, and the dictionary, 2) *sight word skills*, and 3) *word meanings*. Literal, inferential and critical comprehension skills are those that aid the student in understanding, applying and evaluating information contained within expository material. Study skills allow students to make the best use of their vocabulary and comprehension skills in independent work by a) applying appropriate study strategies for increasing understanding and retention of material, b) selecting information within expository material for specific purpose and, c) selecting an appropriate reading rate that matches the reading purpose. Study skills also involve locating information in text selections, (e.g., using Table of Contents, index, glossary, titles, headings, subheadings), with graphic displays, (e.g., illustrations and photographs, graphs, charts, tables, maps, and diagrams), and within libraries.

SECTION II

UNCOMPLICATED ASSESSMENT TECHNIQUES

Cloze Procedure

Due to the content area teacher's time constraints, quick strategies for placing students in content materials and diagnosing problems are needed. Probably the most economical procedure for placing students in expository material known today is the Cloze procedure. The Cloze is only a rough placement tool that provides virtually no reading diagnostic information. Yet it functions well as a technique for matching students with materials and highlighting those students needing further diagnosis. What makes the Cloze particularly practical is the fact that a Cloze test can be easily constructed by the content area teacher and individualized to the specific teaching situation.

How does one use the Cloze? The steps are straighforward. To construct a Cloze, find a 250-word passage representative of the content material. After the first six words, delete every fifth word, leaving a blank in its place. Give the test to the students with the simple instructions to fill in each blank with an appropriate word, so that the entire passage makes sense.

To score the Cloze, figure the percentage of correctly filled in deletions. For students to pass the Cloze at an instructional level, they must fill in between 44% to 60% of the blanks with the exact word in the text. Many reading specialists recommend a modified scoring in which appropriate synonyms for words are also accepted. This is reasonable,

particularly in cases where students supply words that indicate a much higher sophistication in vocabulary than those called for in the original passage.

The types of responses students make on the Cloze test may provide much more diagnostic information than the actual percentage of correct responses. In this way the Cloze is a global assessment of students' passive language abilities, including their level of vocabulary and syntactic fluency. If much of the passage is written in syntactic patterns beyond the students' comprehension level, this will be apparent from the types of errors they make; (for example, inserting nouns where there should be adjectives, articles for verbs, etc.). Also if the passage is relevant to the conceptual load of the course, the students' responses will reveal much about their previous knowledge of the content area.

Of greatest importance is a careful analysis of those tests where the student clearly falls below the acceptable level for a good match between instructional material and student. Those students that have given totally inappropriate responses, obviously unable to fill in words that fit the syntactic structure of the sentence, need further diagnosis. This is quickly apparent when analyzing a student's errors because on a typical Cloze test, as many as 10 to 15% of the responses will most likely be either "a," "the" or "and." If students are having difficulty replacing words at this simple level, they may need considerable help in reading. If a majority of the errors the student makes are content-related, the teacher will have to determine what prerequisite knowledge is necessary for the course. Many of these students may have no knowledge in the material as yet, but would

not be expected to. So a borderline score may not be a problem because the unknown vocabulary will be covered in the course. This is particularly true of content areas such as science and mathematics. In most Cloze texts, however, students should not be placed in the book unless they replace at least 44% of the words accurately.

Informal Reading Inventories

According to Della-Piana in his book, *Reading Diagnosis and Prescription*, the main purpose of a reading diagnosis is to gather information that will help in making decisions about treatment, whether these decisions involve refetral and further diagnosis by a reading specialist, or directly setting up a remediation program in the classroom. Since the content teacher's time is limited, informal reading inventories (IRI) are recommended for the next step in diagnosis. Standardized reading achievement and diagnostic tests frequently take too long and do not provide any more prescriptive information than simply having the student orally read material already available in the classroom. Administering an IRI properly requires several passages of increasing difficulty, beginning with material that goes as low as third or fourth grade level. But before going to the trouble to prepare representative selections, a good shorthand procedure is to have students with problems, as inferred from their Cloze test performance, read a 200-word passage in the current text.

If it is necessary to administer a series of IRIs increasing in difficulty, calculate approximate grade levels of available content material using readability formulas designed specifically for this purpose. Readability formulas suggested for selecting content area textbooks are the

Harris-Jacobson, the Spache, and the Dale-Chall Readability formulas. These formulas should also be used when reviewing textbooks for potential purchase.

Oral Reading Rate and Accuracy

Administer an Informal Reading Inventory individually. Follow these procedures: Tell the student why you are asking him to read, and try to put the student at ease. If possible have the student read apart from the others, in a quiet location. Time the student's reading with either the second-hand of a clock or a stopwatch, but do so as unobstructively as possible. Note how many words the student has read in 120 seconds, but allow the student to finish the passage. Also note all errors the student makes while reading orally, including self-corrected errors. If the student stumbles or hesitates for more than five seconds on a word, tell the student the word. The easiest procedure is to mark in pencil on a separate copy of the reading passage the words the student a) omits - circling, b) substitutes - by writing the substituted word above it, c) inserts - by a $\wedge$ with the words inserted, d) doesn't respond to - N.R. (no response) above it, and e) self-corrects - by S.C. above it.

Following the oral reading in context, write the words the student misidentified in the two-minute reading on a separate sheet of paper. Then have the student reread these words in isolation, again recording the errors the student makes. Figure the student's rate on the words read in context and figure the student's accuracy on the words read in isolation. If the student reads at least 120 words per minute and makes no more than six errors, the student should be able to handle the content materials with minor vocabulary instruction.[2] However, if the student makes between seven and twenty errors, the student will probably be able to keep up with the remainder of the class

with substantial assistance in vocabulary instruction. If the student is reading with less than 90% accuracy (i.e., making more than 20 errors), referring the student to the reading specialist is the best option. If no specialist is available, then finding easier materials for the student to read in the content area is imperative as well as providing additional instruction in vocabulary. The school librarian is another valuable resource in dealing with these problems. The librarian may assist the classroom teacher by identifying appropriate books on a subject area or by assisting students directly in locating books and with other study skills.

Comprehension

In order to assess the student's comprehension level, write ten comprehension questions covering a second 200-word passage that sample literal, inferential comprehension and possibly application and evaluative questions, depending on the content. Have the student read this passage silently, informing the student there will be comprehension questions following the reading. Present the questions to the student either verbally or in writing. If your priority is assessment of the students' oral language facility, present the questions orally, noting verbal fluency and reasoning strategies. Written responses will aid in the assessment of students' writing fluency, and are recommended in situations where you have made prior assessment of the student's verbal ability based on class discussions or informal classroom conversations.

To obtain an estimate of the student's comprehension level, figure the percentage of questions answered correctly. If the student is able to answer 70% or more, presumably the student should be able to progress in the content materials with reasonable success. If the student answers less than 70% of the questions correctly, anticipate that the student will encounter considerable difficulty understanding the material.

Additional informal assessment of comprehension skills is possible from class discussions and written responses on independent work. Consider checking the student's ability to perform the following:

1) Identify relevant details
2) Follow specific directions and sequencing events
3) Draw appropriate conclusions given specific details
4) Make appropriate generalizations from specific incidences
5) Given a generalization or rule, apply it to specific instances
6) Infer cause and effect relationships
7) Extract the main idea of a passage; supportive detail
8) Summarize key concepts
9) Identify author's purpose, propaganda, tone, mood, themes, etc.

Assessment of the first six skills may best be accomplished through structured teacher-made questions or unit-end textbook questions. An alternative openended free recall procedure, "What did this section tell us?" is useful for assessing skills 6-9 listed above. Depending on the severity of the student's problems, the teacher will need to: procure additional teaching assistance from the school's reading specialist, consider locating simpler yet comparable content material for the student to read (more easily said than done), or provide the student with extensive assistance in the form of study guides or direct small group instruction.

Study Skills

Although there are formal assessment procedures for study skills, a functional diagnosis can be done through simple observation. The following questions provide general guidelines for assessment: 1) *Does the student work productively when given class time for study?* 2) *Does the student take notes during lectures and from assigned reading material?* 3) *Does the student consult appropriate reference books including the dictionary?* 4) *Does the student use locational aides within textbooks independently?*

5) *Can the student infer appropriate information from graphic aides within textbooks, such as graphs, charts, maps, etc.?* 6) *Does the student use these when reading?* 7) *How are the student's test-taking skills?*[3]

These suggestions given are only rough guidelines for placement and diagnosis. Understandably, each teacher is going to have a unique group of students in varying classroom and school contexts. Many secondary teachers will, unfortunately, not have a reading specialist to assist them. Making the best decisions given the specific circumstances is all that can be expected of a teacher. If the reading problems are too great to be handled by the content area teacher, it behooves the students and faculty to set up core classes that will teach the students the basic skills they need. The faculty may want to consider comprehensive remedial programs, such as the *Corrective Reading* system (SRA, 1978). This two-pronged system contains programs for teaching basic decoding and comprehension skills to students, fourth through twelfth grades. There are six programs in the *Corrective Reading*, teaching decoding and three teaching comprehension, ranging from materials for the non-reader or non-comprehender to materials appropriate for more advanced students lacking facility in decoding multisyllabic words, vocabulary and advanced comprehension skills.[4]

SECTION III

VOCABULARY INSTRUCTION

The expository material found in secondary textbooks is designed to convey information and explain difficult concepts. Because of these purposes, textbooks contain a much higher percentage of difficult-to-decode words, technical vocabulary, words with multiple meanings and abbreviations and symbols than narrative materials. Students will typically have difficulty understanding these unfamiliar terms and concepts. Therefore, one of the most valuable procedures secondary teachers can follow to enhance textbook understanding is to preteach these difficult concepts. This may be done using a guided reading strategy.

Guided Reading Strategy

In the guided reading strategy difficult concepts and vocabulary from each assignment are identified and presented on the board or overhead projector prior to the assignment. The vocabulary chosen should represent major concepts in the selection which are not clearly introduced in context. For some students it may be necessary to introduce difficult terms two or three days in advance, and to review these terms several times prior to passage reading. It is also critical to chose only a few concepts to introduce and/or review each day. [5]

Vocabulary Building Strategies

Vocabulary may be taught using various strategies. The first and most experientially-based is to teach vocabulary through positive and negative examples--demonstrating or showing students what a word represents and what it does not represent. (This might conceivably be used with vocabulary

such as rhombus, trapezoid, etc. where there are minimal differences between concepts.) However, this strategy is impractical when word meanings can be more simply conveyed through definitions and synonyms. When teaching vocabulary using synonyms it is important to require that the student practice the new word in context either in writing or verbally. Students can be presented with a sentence using the synonym, and repeat it using the new vocabulary term. For example, in teaching the meaning of the word ancient say, "Ancient is another way of saying very old. A very old car is an ancient car. What's another way of saying very old house?" A second example would be: "Substantially is another way of saying greatly. Something greatly different is substantially different. What's another way of saying, 'a greatly revised book'?" For some students, oral practice should be followed by similar written exercises.

To teach vocabulary through the use of definitions, teachers must first construct simple, and concise definitions. Constructing most definitions requires two steps.

- Identify a small class to which the vocabulary word belongs.
- State how the word differs from other members of the class--For example, a loon is a bird that is web-footed and eats fish.

Whenever possible, definitions should be paired with illustrations or examples in the text, and used in context, particularly if there are multiple meanings for the terms.[6]

Generally, vocabulary teaching takes a great deal of work, but the payoff is equally great. It's been noted by a number of reading experts that many of the problems that students have in comprehending material

involves vocabulary.[7] Only by teaching students word meanings and reviewing the words in a systematic fashion will the content area teacher begin dealing with this comprehension problem.

Dictionary Use

Use of the dictionary is, or course, another vital skill to vocabulary development and a skill that should be stressed whenever possible in the course of instruction. Some students may not know how to locate words in a dictionary, others do it inefficiently without using guidewords. Some students won't know how to select the appropriate meaning once they have located a word. Words with multiple meanings often present particular problems, especially when the context is difficult. For example, take the word cardinal. There is a church cardinal, the bird cardinal, and cardinal meaning something very important. Finally, many students may know how to use the dictionary but fail to do so unless prompted by their teacher. All these facets of dictionary usage may need systematic teacher instruction.[8]

Contextual Analysis

Secondary students frequently develop a tendency to gloss over new words, even when the meaning can be gleaned from the surrounding context. Systematic practice in using context clues to derive word meanings can reverse this habit. Skill in contextual analysis is one of the more valuable general reading strategies students can learn in the content areas. It is the primary means by which students will independently expand their vocabularies. Although inferring word meanings from context clues does not necessarily provide precise meanings for words, this strategy does enable the student to determine a word's general meaning and consequently comprehend the gist

of the passage. In some situations students may still need to consult the dictionary or glossary for a more precise definition, but using this procedure all the time would be needlessly time-consuming.

One strategy to teach contextual analysis can be employed when students are actually reading passages. The first step is to have students identify unknown words from the passage. Next, students brainstorm to develop multiple definitions of the words. These definitions (usually listed on the board), are tested against other information in the passage to determine which meaning best fits the given context. Finally students are assigned application exercises, such as writing the new vocabulary words in sentences, puzzles, etc.

It may be necessary to more directly teach use of context clues during prereading activities. Teachers need to be aware of various context forms and their relative difficulty. For example, separation of the word from the critical context clues in the passage, as well as subtler inference, makes some context forms more difficult than others. Many clues involve direct explanations (appositives, "that is," constructions), definitions, comparisons, negations, or explanations through examples. These clues are so explicit their use need little instruction, mostly just practice. Assigning the students a paragraph to read with the purpose stated as being able to define a particular term by the end, is one technique for having students practice contextual analysis. The same procedure with more directed discussion may be used for teaching less obvious clues such as mood or tone clues, summary clues, experience, familiar expression clues, or words in a series.

Word Attack Strategies

Being able to decode words is a necessary component of comprehension. If a student cannot discriminate between through and though, or independent and institution, it is unlikely the student will be able to understand what is read. While contextual analysis instruction and preteaching unfamiliar concepts prior to reading may be adequate for some students, others will also need more direct teaching in word identification skills. These include phonic analysis (blending letter-sound correspondences into words or syllables), and structural analysis skills, i.e., syllabic analysis, (dividing words into parts and blending the parts back together), and morphemic analysis (dividing words into affixes and root words).

Many students have difficulty with unfamiliar multisyllabic words containing high frequency affixes and particular letter combinations such as: ion preceded by t or s; ial preceded by t or c; une preceded by t or s; r controlled vowels (ir, ur, er, or, ar) and g and c followed by e or i. This is an area where secondary content area teachers, not trained in reading instruction, may wish to contact a reading specialist for assistance. It's important to realize that, for the most part, secondary reading teachers can provide a great deal of practical reading instruction without any special training in reading. Teaching high-frequency affixes and their meanings is especially valuable as a means for vocabulary expansion. Morphemic analysis is particularly utilitarian in areas such as science and social studies where various affixes appear frequently (e.g., micro, tele, bio, sub, di, tri, proto, multi, morph, scope, ism, ology).

Similar Lists

One effective technique for introducing multisyllabic words involving a particular affix or letter combination is to introduce it in what is called a similar list. The simple sequence can be done as follows. Write the affix or combination on the board with a list of words containing the word part underneath it. Define the word part, if its meaning can be easily expressed, (e.g., micro means very small; less on the end of a word means without), and have the students identify the words in the column below, discussing meanings when appropriate. Repeat the similar list for two more days, having students generate meanings whenever feasible. Introduce new words containing the same word-part, on subsequent days, while reviewing any words that were difficult to pronounce the first time presented. Select examples that the students will encounter in their course readings. After practicing the word type in isolation for three days, integrate various examples in a general vocabulary list, (a random list), for the next ten days.

Random Lists

Introducing words in a random list is frequently necessary because a number of the "stopper words" that are essential to passage understanding do not lend themselves to concise phonetic or morphemic analysis. A random list can be a general vocabulary list containing difficult-to-decode and irregular words students will encounter in their reading. This list might include, for example, words such as thorough, particular, peculiar, tough, special, through, expectations, exceptions. To assist students with syllabic analysis, indicate the syllables and guide students to decode the syllables and blend them together. For instance with the word, exception, cover the word except for the prefix, ex. Have the students identify ex, then uncover cep. If they have difficulty with cep, remind them that c makes its

soft sound, ssss in front of i or e. Then uncover the last part of the word. They should know the part tion (shun). For compound words such as network, underdeveloped, fairground, prompt students to find two words within the one. With irregular words, use the whole word method of instruction. For instance, introduce such words as hearth, thorough, prove, wharf, tough, great, schedule, touch by simply telling the students the word.

Build-ups

In the case of particularly confusing words, those involving close discriminations such as through, though, and thorough, a build-up procedure is very effective. To introduce words using a build-up, write only one word on the board, have the students identify it, then make minimal changes, turning it into an often-misidentified partner. For example write the word quit on the board, then change it to quite, then to quiet. This same procedure can also be used to introduce an important root word, calling students' attention to all the derivatives containing that root. For example, the root struct might be used with additions: a) in--instruct, b) con--construct, c) de--destruct, d) ion--destruction.[9]

Phonetic Spellings

Another practical strategy for vocabulary development is to teach students to use phonetic spellings often provided by textbook authors. This phonetic information usually specified in parentheses following difficult-to-pronounce and foreign words, (e.g., laissez-faire, pseudonym, bureaucracy), can be utilized if the students are taught the pronunciation key and provided with adequate practice and review. Unfortunately, this is another example of a skill many students have been taught, but fail to use without considerable prompting.

Diagnosis

Diagnosis of student's vocabulary skills should be an ongoing process. Most vocabulary assessment can be conducted on an informal basis. Asking students questions about specific terms they have read in the text, asking students to define in their own words many of the difficult-to-decode words pretaught in guided reading lessons, and periodically having the students read aloud important passages in the text are appropriate ways of informally assessing student progress in the area of vocabulary. If students are encountering a high percentage of unknown words in their readings (approximately one in every six to eight words), they will have substantial difficulty with comprehension unless they are given direct and systematic instruction by the teacher. This need not be done orally. In many cases a well-designed study guide specifying new vocabulary to be studied before reading the assignment, might be more appropriate.

Instructional Design

The purpose of the above teaching suggestions is to provide students with successful strategies for attacking new words while reading independently. Direct instruction in these strategies provides an initial step toward this goal. As soon as students are able to consistently perform the strategies, teacher-directed instruction should, of course, be faded. However, substantial practice and occasional review of the various strategies are often necessary before students are able to use the strategies independently. Student's acquisition of these strategies is facilitated by careful selection and organization of the words for initial vocabulary instruction; for instance, identifying potential stopper words with multiple meanings.

Presentation

Apart from the designing of the instruction, there are a few presentational procedures and techniques that can save time. To maximize the instructional time, one helpful procedure is to write the new vocabulary terms and decoding word lists on the board or transparencies prior to class. During the beginning of the class period five to ten minutes on vocabulary instruction is sufficient. Having the material prepared beforehand allows for quick pacing and a smooth transition to subsequent lesson parts such as the independent reading assignments or other prereading, comprehension and study skill activities. A final suggestion to maximize student involvement, particularly with lower-performing students, is to call on students to respond in unison.[10] Also, if some students are more advanced, they may work on independent assignments while the teacher spends time with those needing more direct instruction in skills.

SECTION IV

COMPREHENSION

So far this *Bulletin* has dealt with simple procedures for placing students in expository materials diagnosing their reading problems, and preteaching vocabulary using a variety of strategies. The following sections will address general problems of teaching comprehension and study skills to secondary students and provide more procedures for maximizing students' understanding in content area texts.

It is difficult to specify simple diagnostic/prescriptive techniques for solving comprehension problems because of the vague nature of the term comprehension.[11] But there are increasingly sophisticated units in comprehension which can guide instruction.[12] These units progress from words to phrases, sentences, paragraphs, and passages. Skills for manipulating these units include the following: rapid decoding, identifying specific information, summarization, inference, simplifying syntactic and semantic information--(in the student's own words), and various study skills including dictionary usage, outlining, and skimming. In addition, students need a knowledge base in order to develop these comprehension skills. This knowledge base consists of several components: a) acceptable word orderings (syntax), b) word meanings (semantics), c factual information, d) logic, and e) a framework for incorporating new experiences (schema).[13]

This final component, schema, has been defined in the following way. "A schema represents generic knowledge; that is, it represents what is believed to be generally true of a class of things, events, or situations. A schema is conceived to contain a slot or placeholder for each component.

For instance, a face schema includes slots for a mouth, nose, eyes, and ears."[14] It is probable that each discipline taught in the upper grades assumes multiple schemas. For example, there is most likely a structure underlying the study of social studies, science, or mathematics that is necessary in order for students to comprehend texts of that particular discipline. So in addition to teaching other more specific comprehension skills, a content area teacher may also be involved in instilling a knowledge structure which indicates the typical relations among the discipline's components.

Match/Students and Materials

Research studies and specialists have suggested several important strategies for improving comprehension skills of secondary students. The first, as mentioned earlier, is to make certain reading materials are appropriate for the various reading levels of the students.[15] As a corollary, grouping students into skill levels and providing differentiated instruction is becoming increasingly important given the advent of PL 94-142 and the mainstreaming movement. This may be accomplished by a) flexibly grouping students into tracks, or b) providing for individual differences within the same class. Although system-wide homogeneous grouping may have deleterious effects on students if mishandled, many secondary teachers view it as a viable alternative to hetergeneous grouping. The individual differences in terms of reading levels in content classrooms may typically range from six to seven grade levels. Higher performing students are performing between the 10th and 12th grade, while lower performers are barely performing at 4th grade level.[16] Grouping and matching students with these differences

to appropriate materials and preparing daily lessons for each group is virtually impossible. Only if teachers have more homogeneous classrooms is matching materials with student realistic.

Establish a Purpose

One of the most practical strategies a secondary teacher can utilize to improve comprehension is to establish a purpose for the reading. The main purposes for reading in the content area are for understanding and retention of the material. Unfortunately this is not necessarily realized by many secondary students. As it turns out, the skill of purposeful reading for retention is typically not taught in the primary grades, yet it is often assumed by the time students reach junior high and high school. Therefore, establishing general purposes for reading along with specific daily purposes for reading assignments is an important practice. Specific purposes are appropriately stated immediately before the independent reading is assigned. For instance, before students read a passage in a history text, they can be told to read the passage to determine four events leading up to World War I.

If students have difficulty working independently, consider using a guided reading strategy where the reading selections are broken into shorter, more manageable segments. Each segment is previewed and the purpose for reading specified (e.g., "Read to find out____."). Then the students read the segment and discuss it. Lower performing students with decoding problems may require even more structure.[17]

Review and Synthesis Lessons

Another procedure for improving retention is to build periodic review and synthesis lessons into the regular curriculum. Most tests are not designed to build retention of facts and concepts covered. They usually are meant to

introduce information in a logical sequence, but do not provide sufficient review and integration of important concepts. Concepts may be reviewed in a desultory manner, but rarely with enough frequency that the middle to lower performing students receive the integration and application practice they need to retain major concepts and relevant details. Review and synthesis lessons can provide students the opportunity to apply the knowledge gained from previously taught concepts to new situations. For example, if the pupils have studied cause and effect relationships in the French revolution, they might apply these to the Russian revolution. If, in a science course, the students have learned about various animal phyla, they may then apply their knowledge to studying primary and secondary consumers.

Questions

Secondary students will generally have difficulty understanding the major concepts and critical information imbedded in the text.[18] History and science, as examples, demand a lucid understanding of cause and effect relationships, concepts of time and space, the chronology of era and events, etc.[19] In history and science as well as other subjects, secondary students must be able to discriminate between fact and opinion, determine author's purpose, draw valid conclusions and make logical inferences and generalizations.[20] One essential strategy for teaching this type of comprehension, i.e., directing students' attention to the essential concepts before the students begin reading, was discussed under preteaching vocabulary. Asking questions that stress major concepts is another key strategy for leading students to a thorough understanding of the content.

Structured Questions

Asking structured questions is a most realistic strategy to enable students to clearly understand material read.[21] These questions should be written out beforehand. The proportions of literal to inferential questions should be adjusted according to the students' sophistication. If the students are higher performers, predominantly inferential questions are appropriate. These are questions that lead students to critical reasoning, determine main idea, infer cause and effect relationships, apply principles or rules to new situations, draw conclusions, determine authors' purposes, the mood and tone, themes, and so on. If students are lower performers, a much higher proportion of literal questions, (questions dealing with factual recall of details, sequencing of events, the "W" questions: who, what, when, where, etc.), will need to be posed before advancing to higher order questions. Research suggests a higher percentage of the questions should be lower order rather than higher order, especially when introducing new material.

A few helpful suggestions to guide question-asking are:

- Stress major concepts presented in the material.
- Go beyond yes and no questions.
- Make certain questions are well worded to promote easy interpretation.
- Make certain a majority of questions are passage dependent, i.e., the answers are based on passage information rather than on general knowledge.
- If the content deals with principles, generalizations and rules, emphasize application questions.

Free Retell

Free retell is another effective means for testing comprehension and is a useful alternative to structured questions. One of the disadvantages to

structured questions is that we know what we want students to answer to the question yet frequently have difficulty phrasing it in such a way that students interpret it accurately. Asking students open-ended questions such as "What did this passage tell us?" demands verbal expressions and organization beyond that required to answer structured questions and avoids difficulties in wording questions.

Generally, incomplete or inaccurate answers to questions should be corrected by having students refer back to the chapter. Ask the students to locate the passage of the chapter discussing the topic, scan the section for the key word(s), and reread in order to rephrase or alter their original response.

Diagnose Written Work

The same guidelines articulated for oral questions also apply to written questions for independent work. One practical procedure for diagnosing comprehension problems in written work is to maintain a daily record of errors. (See the chart below.)

Names	Percentage of Incorrect Items Dates of Assignments 11/14	11/16	11/22	11/23	....
1.	14%	3%	25%	17%	
2.	0%	0%	5%	3%	
3.	21%	0%	40%	29%	
4.	27%	15%	ab.	70%	
.	.	.	.	.	
.	.	.	.	.	
.	.	.	.	.	

On the chart the number of questions answered incorrectly, (or correctly, whichever is preferred), is recorded for each written assignment. The date of the assignment can be recorded along the top. If the assignments involve

varying numbers of questions, the percentage correct or incorrect should be used rather than the actual number of items missed. This chart allows for quick identification of those students having difficulty with the written exercises. An average accuracy rate of 75% to 85% is recommended for higher performing students, while lower performers may need to average approximately 90% or more on written work in order to be adequately mastering the material.

Further analysis of students' written work may suggest specific comprehension deficits. For example, teachers may find that the students are missing primarily literal types of factual recall questions or inferential questions such as those applying concepts to new situations. As a precorrection, posing high-error type questions frequently in discussions prior to independent work is effective. If the students continue to have difficulty, they may need further assistance during independent work. Consider having the student do the following:

a) Read the question aloud
b) Tell you what is being asked
c) Scan the passage for lay words to answer the question
d) Write the answer
e) Proofread the answer[22]

SECTION V

STUDY SKILLS

Comprehension and study skill instruction overlap a great deal. This final section is actually a continuation of strategies for teaching comprehension under the rubric of study skill strategies and skills dealing with special features of the content material. The first part will deal with utilization of organizational features of the material. The second part will discuss the use of the SQ3R study strategy. (Survey, Question, Read, Recite, Review).[23] The third section will deal with strategies other than teacher-directed preparatory activities, such as preparatory study guides and content guides.

Utilize Organizational Features

The organizational design of textbooks is an important consideration in comprehension instruction. The design reflects the fundamental complexity of the subject matter; for example, the cause/effect relationships in history, the hierarchical classifications in various disciplines, important sequences, events and actions, etc. Much of this organization is indicated by the headings, subheadings and italics. Other special features of textbooks are also included to enhance comprehension of the material. These include the various graphic displays (illustrations, charts, maps, tables, etc.), advanced organizers and summaries.[24]

Preparatory activities emphasizing organizational features constitute another strategy teachers can provide to students. There are major patterns of writing that have been identified in various content areas. For example,

in science major patterns are: enumeration, classification, generalization, problem solving, comparison or contrast, and sequence. Many of the same patterns can be found in social studies in addition to cause-effect and topic development patterns. Focusing students' attention on specific strategies can enable students to unlock the ideas and concepts within each writing pattern. For instance, in enumerative writing the reader must locate the topic of the selection, then recognize the subtopics and thirdly, organize the details relating to each subtopic.[25]

Survey the Selection

Surveying or previewing the selection is one preparatory technique for acquainting students with the organizational features of the text and an overview of the content. It provides students with a technique for effective study, also, helping them establish purposes independently and focus their attention on the most important information. This first step of the study technique, SQ3R, involves surveying the title, introduction, headings, subheadings and summaries. By guiding students through this process, teachers can better prepare students for comprehending the content, especially if the organization of the content is complex.[26]

Use Graphic Aids

Along with surveying the selection, instruction in how to read and interpret various graphic displays is another effective preparatory activity. Many students may not have received systematic instruction in reading and interpreting information provided in tables, graphs, maps, charts, diagrams, or illustrations and photographs. Others, who have received instruction in the use of visual aids, will frequently fail to apply these skills to

new curriculum. Therefore, it's safe procedure to teach and review early in the term, all necessary skills for obtaining information from the graphic aids characteristic of a particular discipline (for instance, in mathematics, reading tables, graphs, and charts; in social studies, interpreting maps, charts, tables, photographs; in science and health, using illustrations, diagrams, graphs, etc.).

Teaching procedures will vary according to the particular graphic aid. Yet the general teaching strategy includes the following:

- Determine and teach prerequisite skills for reading and locating information in the display. With map reading, for instance, students need to be able to determine directions, read the title and map's scale, and identify various locations and geographical characteristics.

- Test students' understanding by specific application questions. For instance, have students determine various values on a graph given specific examples, or locate various positions on a map and determine the distance between the points using the map's scale.

- Teach strategies for interpreting the information provided in the graphic aid, such as making comparisions and drawing conclusions based on information in the display.

- Teach students how to refer to graphics while reading in the discourse, either by holding their place with their finger as they refer to the graphic display or by marking their place lightly in pencil. Next they should examine the graphic and the captions under it, then resume reading. They need to be reminded to always look at the graphic when it is indicated in the text to do so.

Comprehension Questions

Once students are well acquainted with the use of graphic aids in their text, perusal of specific graphics can be incorporated into the selection previewing. This can be accomplished using the SQ3R sequence. After students have read the title, headings, and introductory paragraph, the next step is to have students pose questions about the topic and scope of the selection.

These questions can be written on the board or just discussed. (The teacher will probably wish to lead the discussion with other structured questions.) Then following the question generating, students examine the graphic displays, illustrations and photographs to verify speculations as to the selection's content. This quick, introductory process can aid in motivation and setting the purpose for reading. For some a concluding statement about specific purposes for reading the selection may also be helpful.

Adjust Rate to Reading Purpose

One final preparatory strategy teachers might introduce before silent reading is how to adjust rate to the reading purpose. This can be done simply by telling the students which parts of the selection require careful reading, (in order to handle the conceptual load and complexity), and which parts they should read more rapidly for background information. Eventually students should be directed into making these distinctions independently, i.e., determining what variables demand slow, careful reading and rereading or rapid reading. For those students with very slow reading rates and poor decoding abilities, other procedures might also be employed.[27]

Read, Recite, Review

When the students are adequately prepared in terms of vocabulary, major concepts, and purpose for reading, silent reading should be assigned. Even with high school students, teachers may need to circulate around the room assisting students with unknown words, reinforcing the use of good study skills and strategies, and insuring academically-engaged time. Questions and discussion typically follow silent reading in a guided reading lesson format. Guidelines for questions and corrections were discussed in Section

IV on comprehension. In terms of the SQ3R study technique, these activities fall under the labels of reciting, reviewing, rereading, etc. The structured questions are designed to have students recite and review important information they have read, "digging" for the most relevant content in the assignment. Also spacing review, returning to the content after a time lapse, (a day, a week, or even more), is a valuable technique for increasing retention.

This period in the lesson is also a good take-off point for developing other study skills such as skimming, scanning, note-taking, and outlining.

Study Guides

Although many of the effective strategies teachers use for increasing comprehension and retention are done orally in guided reading lessons, some of the best strategies are well-designed study guides. Study guides fall into two major categories; preparatory guides and content guides. Preparatory guides, as the label implies, focus more on the reading strategies students should use while studying the assigned material. To be more specific, this type usually establishes a purpose for reading, and provides helpful hints for applying reading and study skills such as spelling out the vocabulary students need to study, pinpointing new or unusual graphics, suggesting an appropriate rate, or summarizing a survey technique they may use in previewing and reviewing the material.

Content guides, on the other hand, focus the students' attention on important information covered in the content. This type of guide typically provides a series of study questions the student should read before doing the assignment. Upon completion of the selection, the student will answer these same questions in writing or orally. In some cases content guides

include extension activities the students are to engage in after they have finished the reading. As an illustration in science, this may involve performing simple experiments such as setting up water life chambers for bacterial life. In health, extended activities may involve designing a week of well-balanced meals and illustrating with food pictures taken from magazines. In history it may involve locating important biographical information from a reference book or other history text.

Time-Savers

For able readers, study guides and techniques are often sufficient to allow them to learn from reading. They are usually capable of attacking new scientific terms independently, using footnotes, glossaries, and other locational aids, and following the author's organization while drawing appropriate conclusions and inferences. Unfortunately, the below-level readers are not able to work this independently. Thus, while the better readers work independently through the assignment directed by the study guide, the teacher can provide direct instruction in vocabulary, comprehension and study skills to the lower performing students.[28]

Peer Tutoring

A final suggestion for providing additional assistance to lower performers is to use peer tutors. As anyone who has used peer tutoring will note, it's important to structure the setting carefully. The tutors as well as the tutees usually work best with clearly defined responsibilities and specific activities to follow. Nevertheless, mature and highly skilled students can be extremely competent teachers to their own peers when given proper tools and directions. The vocabulary instruction discussed in Section I, if clearly specified beforehand, could easily be taught by a peer or

student aide, as could study techniques discussed in Section IV. Also, peers could be paired to work through study guides together. If possible the most mature, able readers should be paired with those having the least skills, and teams of lower performing students avoided.

Conclusion

In summary, this *Bulletin* has presented secondary content-area teachers with a variety of ideas and suggestions for placing students, and diagnosing their reading problems, and for teaching vocabulary, comprehension, and study skills with particular emphasis on techniques that are effective with lower-performing students. It has not dealt with the issues of teaching writing skills, selecting appropriate materials, sequencing and modifying content materials, or other critical aspects of designing instruction. Nor have the suggestions covered the areas of vocabulary and comprehension development in any great detail. In any case, it is hoped that this *Bulletin* has provided some functional suggestions and has been a catalyst for new ideas which will help secondary teachers succeed in teaching all students.

Footnotes

[1] Educational Testing Service, "News of Basic Skills Assessment," Vol.2 No. 3, May 1978.

[2] The rational behind a 120 word-per-minute rate is that students will be required to cover a substantial amount of reading in each content assignment. If students are unable to read at least 120 wpm orally, they will most likely have difficulties keeping up with the reading load. If a pupil's rate is slow, but accuracy is high, then consider placing the student on a rate program. This entails timing the student for one or two minutes on practiced material and having the student chart his or her progress. Rate timings should occur several times a week until the student is reading over 120 words a minute regularly. If the student starts making more decoding errors, institute a rate and accuracy program, which involves the student working on increasing rate while keeping errors down (less than four per hundred words). Again the student should chart performance in order to see progress.

[3] Test taking skills imply a student's understanding of what is called for in test questions and varying formats. For example, in essay exams which ask students to compare and contrast the French and Russian revolutions. the student is to describe both the similarities and differences. Often students only describe the two revolutions, making no comparisons.

On true/false items, if any part of an item is false, the entire item is false. This is another test taking fact students often misunderstand.

[4] Corrective Reading (SRA, 1978 edition) is a remedial program for students in grades 4-12. The program, based on direct instruction principles and users' feedback, includes two strands: Decoding and Comprehension. In each strand, there are three program levels. In the Decoding strand the most basic level, Level A, is Word Attack Basics. The second level, Level B, is Decoding Strategies. The third and most advanced level, Level C, is Skills Applications, which concentrates on multisyllabic word decoding, vocabulary and written comprehension. In the comprehension strand, the levels progress from Thinking Basics, Level A, to Comprehension Skills, Level B, to finally Concept Application, Level C. Level C not only maintains skills gained in the previous levels, but also emphasizes advanced comprehension applications: survival skills, critical reading skills, analyzing arguments, and reasoning skills and, most importantly, writing skills.

[5] Some educators maintain that you can expect to teach many students a maximum of 250 new concepts a year.

[6]See Carnine, D.W. and Silbert, J., Direct Instruction Reading for more detailed information. (1979)

[7]Davis, F.B., 1968; Chall, J.; Becker, 1977.

[8]Ibid, see Carnine and Silbert, Study Skills: Using the Dictionary, Textbooks and References Books.

[9]See Corrective Reading, Decoding Levels B and C for specific examples of instructional design techniques using similar, random and buildup lists.

[10]A procedure of oral unison responding will maximize practice and allow the teacher to obtain feedback from all students rather than just the quick-to-respond students.

[11]Simons pointed out an interesting dilemma in his definition of comprehension noting that we can only really know about the products of comprehension, not the process itself. "The comprehension process is the mental operations which take place in the reader's head while he is reading....the products of the comprehension process are the behaviors after comprehension has taken place, such as answers to questions." Carnine and Silbert have made an important suggestion given this dilemma. They point out that although a number of reading experts have described the critical cognitive components of comprehension, these definitions, such as Simon's, do not directly or easily translate comprehension components into instructional implications. If we are concerned about improving reading instruction, we must deal with an instructional model that has implications for the classroom teacher. This means identifying critical skills that need to be taught.

[12]Ibid. Carnine and Silbert.

[13]The Comprehension strand of the Corrective Reading program addresses several of the major problems in dealing effectively with comprehension instruction. These include oral language and logical thinking skills. The importance of these skills in higher levels of comprehension has been emphasized by a number of educators (Moffett, 1973, Becker, 1975).

[14]Anderson, R.C., Schema-Directed Processes in Language Comprehension, page 2-3.

[15]Fay, 1963.

[16]See Dillner and Olson, (1977), for a discussion of representative classroom reading test scores, pages 8-10.

[17]Corrective readers appear to benefit most when they orally read the entire selection in a small group setting, (Stallings, 1978). As students read, the teacher poses frequent comprehension questions, which students later answer in writing. See the Corrective Reading program for suggestions.

[18]Burmeister, 1974.

[19]Davis (1975) provides a comprehensive list of strategies that is particularly helpful for social studies and history teachers yet has general applicability to all content teaching. He has incorporated the following: 1) help students acquire an understanding of concepts of time and space, the chronology of eras and events, the relationship between past and present, and cause-effect relationships, 2) help students learn to deal with lengthy complex sentences in paragraphs which are packed with concepts, 3) enhance the understanding and retention of ideas and concepts encountered when reading materials in history by setting definite purposes to be achieved by reading; for example, reading to answer questions, to find specific details, to evaluate a particular statement, or to determine the general significance of an article, and 4) teach students to apply the higher level critical reading skills when reading materials in history.

[20]Roehler, 1975.

[21]This material on questioning strategies has been taken from A. Archer's chapter in Carnine and Silbert.

[22]Ibid, Archer, A.

[23]See Burron and Claybaugh, Using Reading to Teach Subject Matter, pages 33-34.

[24]Advanced organizers are questions or summaries that appear before the chapter discourse highlighting the key ideas covered in the discourse.

[25]For more specific and detailed handling of writing patterns in all content areas, consult H. Alan Robinson's recently revised Teaching Reading and Study Strategies, The Content Areas, (1978), pages 159-294.

[26]Ibid, Archer, A. The following material on study skills techniques and guides is based on the work of Anita Archer, and can be found in part in Carnine and Silbert (in press).

[27]A growing number of students encounter difficulty keeping up with the reading assignments because they read too slowly. One practical suggestion for these students is to highlight or underline a few textbooks used in the class. Then have the students just concentrate on reading the introductions and summaries and the highlighted key sentences.

For those students with severe decoding problems, it may also be necessary to have them read orally either in a small, teacher-directed group or to another advanced student. If students miscall a substantial percentage of words when they read orally, you can be assured they do not read these words accurately when reading silently and therefore do not comprehend the material read.

It is easier to teach these students the content through other media, through lectures, films and so on. But if these students do not receive some practice reading each day their already inadequate reading skills will definitely atrophy, insuring illiteracy.

[28]Early, 1965.

BEST COPY AVAILABLE

References

Anderson, R.C., Schema-Directed Processes in Language Comprehension, Technical Report No. 50, University of Illinois, Urbana-Champaign, July, 1977.

Becker, W.C., Teacher Reading and Language to the Disadvantaged--What We Have Dearned from Field Research, Harvard Educational Review, Vol. 47, No. 4, November 1977.

Becker, W.C., S.E. Engelmann, and D. Thomas, Teaching 2: Cognitive Learning and Instruction, Science Research Associates, Inc., Chicago, Illinois, 1975.

Burmeister, L.E., Reading Strategies for Secondary School Teachers, Addison-Wesley Publishing Co., Inc., Reading Massachusetts, 1974, pp. 80-91.

Burren and Claybaugh, Using Reading to Teach Subject Matter, Charles E. Merrill, Columbus, Ohio, 1979.

Carnine, D.W. and Silbert, J., Direct Instruction Reading, Charles E. Merrill, Columbus, Ohio, 1979.

Chall, J., Learning to Read: The Great Debate, McGraw Hill Co., New York, 1967.

Davis, E.D., Selected Secondary School History Teachers' Suggestions for Teaching Effectively the Special Reading Skills Needed in the Study of History, (ED 120680) ERIC Report, U.S. Department of HEW, Office of Education, Washington, D.C., 1975.

Davis, F.B., Research in Comprehension in Reading, Reading Research Quarterly, 1968, Vol.4, pp 499-545.

Della-Piana, Gabriel M., Reading Diagnosis and Prescription: An Introduction, Holt Rinehard & Winston, Inc., New York, 1968.

Dillner, M.H. nad J.P. Olsen, Personalizing Reading Instruction in Middle, Junior, and Senior High Schools, Macmillan, 1977.

Early, M.J., Teaching Comprehension Skills in Secondary School, ERIC Reports EDU 24549, U.S. Department of HEW, Office of Education, Washington, D.C., November 5, 1965.

Educational Testing Service, "News of Baisc Skills Assessment, "Vol. 2, No. 3, May 1978.

Engelmann, S., et al, Corrective Reading, Science Research Associates, Chicago, Illinois, 1978.

Estes, T.H. and J.L. Vaughn, Reading and Learning in the Content Classroom. Diagnostic and Instructional Strategies, Allyn & Bacon, Inc., 1978.

Fay, L.C., Reading in the High School, publication No. 11 in the series, What Research Says to the Teacher, National Education Association and Association of Classroom Teachers, Washington, D.C., 1963, pp. 23-25.

Moffett, J., A Student-Centered Language Arts Curriculum Grades K-6: A Handbook for Teachers, Houghton Mifflin Co., Boston, Massachusetts, 1973.

Palmer, W.S., Teaching Reading in Content Areas, Journal of Reading, October, 1975, Vol. 19, pp. 43-45.

Robinson, H.L., Teaching Reading and Study Skills: The Content Areas, Allyn Bacon, Inc., Boston, Massachusetts, 1978.

Roehler, L.R., Techniques for Improving Comprehension in Social Studies, Perspectives for Reading No. 18, Reading in the Middle School, Gerald G. Duffy (Ed.), Newark: IRA, 1975, p. 145.

Ruddell, Robert B., Effect of the Similarity of Oral and Written Patterns of Language Structure on Reading Comprehension. Elementary English, April, 1965, Vol. 42, pp. 403-410.

Stallings, Jane, Teaching Basic Reading Skills in Secondary Schools, paper presented at AERA, Toronto, Canada, March, 1978.

Wier, Eleanor J., Cultivating Good Readers, Teacher, September, 1976, pp. 117-118.